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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/502,393

07/26/2004

Manabu Ogawa

Q82712

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65565 7590 03/28/2007
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EXAMINER

SHAH, MANISH S

ART UNIT

PAPER NUMBER

2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/502,393	OGAWA ET AL.	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Taguchi et al. (# US 2004/0066438 A1).

The applied reference has a common Assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Ishizuka et al. discloses :

1. An ink for ink jet recording, comprising a aqueous medium and a phthalocyanine dye ([0100]) dissolved or dispersed in the aqueous medium ([0148], see Examples), wherein the phthalocyanine dye has an oxidation potential of more positive than 1.0 V ([0045]) and the ink has a conductivity of 0.01 S/m to 10 S/m ([0183]).

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2 & 3. The ink has a viscosity of 1 to 20 mPa.sec at 25.degree. C ([0188]) and has a static surface tension of 25 to 50 mN/m at 25.degree. C ([0192]).

4. The ink for ink jet recording according to claim 2, wherein a viscosity of the ink has a viscosity ratio of not greater than 250% from at 25.degree. C. to at 10.degree. C., and a static surface tension have a static surface tension ratio of not greater than 130% from at 25.degree. C. to at 10.degree. C (see Examples).

5. The ink for ink jet recording according to claim 1, which has a pH value of 4 to 12 at 25.degree. C ([0180]).

2. Claims 1-4 & 6-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishizuka et al. (# US 2004/0010052 A1).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Ishizuka et al. discloses :

1. An ink for ink jet recording, comprising a aqueous medium and a phthalocyanine dye ([0113]) dissolved or dispersed in the aqueous medium ([0249]-[0250]), wherein the phthalocyanine dye has an oxidation potential of more positive than

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1.0 V ([0012], [0235]) and the ink has a conductivity of 0.01 S/m to 10 S/m ([0244]-[0248]; see Examples).

2 & 3. The ink has a viscosity of 1 to 20 mPa.sec at 25.degree. C and has a static surface tension of 25 to 50 mN/m at 25.degree. C ([0259]).

4. The ink for ink jet recording according to claim 2, wherein a viscosity of the ink has a viscosity ratio of not greater than 250% from at 25.degree. C. to at 10.degree. C., and a static surface tension have a static surface tension ratio of not greater than 130% from at 25.degree. C. to at 10.degree. C (see Examples).

6. The ink has a dye remaining ratio of not smaller than 60% after 24 hours of storage in an atmosphere of 5 ppm ozone in a monochromatic area that is obtained by printing with a monochromatic ink in such a manner a cyan reflection density through a status A filter is from 0.9 to 1.1 ([0309]-[0310]).

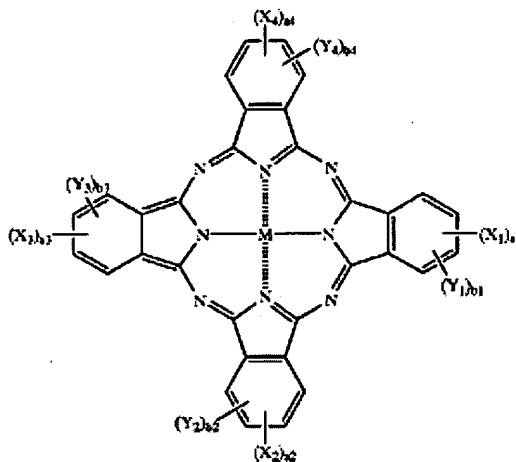
7. The ink for ink jet recording according to claim 1, wherein the ink has Cu ions that are eluted with water in an amount of not greater than 20% of a total amount of the dye after 24 hours of storage in an atmosphere of 5 ppm ozone in monochromic area (see Examples; Table: 2).

8. The ink for ink jet recording according to claim 1, wherein the phthalocyanine dye is a water-soluble dye having an electron-withdrawing group at β -position of a benzene ring in the phthalocyanine ([0017]).

9. The ink for ink jet recording according to claim 1, wherein the phthalocyanine dye is a water-soluble dye that is produced by a process which doesn't pass through a sulfonation of an unsubstituted phthalocyanine ([0017]).

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10. The phthalocyanine dye is represented by the following formula (I): ([0016]-[0017]).

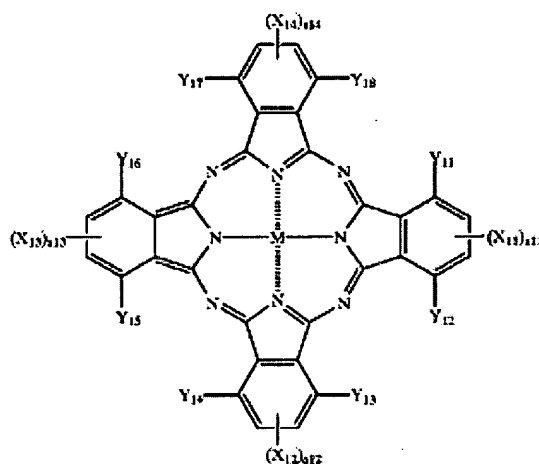


wherein X1, X2, X3 and X4 each independently represent --SO-Z, --SO₂-Z, --SO₂NR₁R₂, sulfo group, --CONR₁R₂ or --CO₂R₁; Z represents a substituted or unsubstituted alkyl group, substituted or unsubstituted cycloalkyl group, substituted or unsubstituted alkenyl group, substituted or unsubstituted aralkyl group, substituted or unsubstituted aryl group or substituted or unsubstituted heterocyclic group; R₁ and R₂ each independently represent a hydrogen atom, substituted or unsubstituted alkyl group, substituted or unsubstituted cycloalkyl group, substituted or unsubstituted alkenyl group, substituted or unsubstituted aralkyl group; substituted or unsubstituted aryl group or substituted or unsubstituted heterocyclic group; and when there are a plurality of Z's, they may be the same or different; Y₁, Y₂, Y₃ and Y₄ each independently represent a monovalent substituent; and when there are a plurality of any of X₁ to X₄ and Y₁ to Y₄, they may be the same or different; a₁ to a₄ and b₁ to b₄ represent the number of substituents X₁ to X₄ and Y₁ to Y₄, respectively; a₁ to a₄ each

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independently represent an integer of from 0 to 4 and are not 0 at the same time; and b1 to b4 each independently represent an integer of 0 to 4; and M represents a hydrogen atom, metal atom or oxide, hydroxide or halide thereof.

11. The dye represented by the formula (I) is a dye represented by the following formula (II): ([0144]-[0148]).



wherein X11 to X14, Y11 to Y18 and M each have the same meaning as those in the formula (I); and a11 to a14 each independently represent an integer of 1 or 2.

12. A method for ink jet recording, comprising using the ink for ink jet recording (see Examples; [0260]-[0265]).

13. The image-receiving material including an image-receiving layer containing an inorganic white particulate pigment on a support ([0260]-[0262]).

14. A method for producing the ink for ink jet recording according to claim 1, which comprises at least applying an ultrasonic vibration ([0263]).

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15. The ink for ink jet recording prepared is filtered through a filter having pores of an effective diameter of not greater than 1 μm and defoamed before use (see Examples).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being obvious over Ozawa (# US 2003/0217671).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and

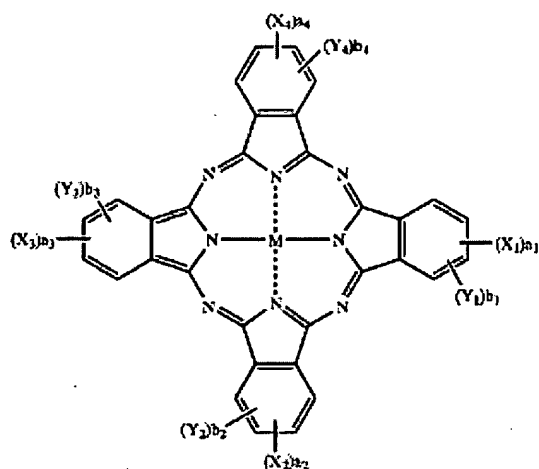
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reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Ozawa discloses:

- An ink for ink jet recording, comprising an aqueous medium having dissolved therein a phthalocynine dye, wherein the phthalocyanine dye has an ionic hydrophilic group and is a water soluble dye having an oxidation potential of more positive than 1.0 V (vs SCE) ([0015]-[0023]), and the ink includes a water-miscible organic solvent ([0158]).
- The ink has a viscosity 20 mPa.s or less ([0167]), the surface tension is from 20 to 50 mN/m ([0166]), and pH is from 8-11 ([0164]).
- The ink composition includes the polyhydric alcohol and/or derivative of polyhydric alcohol at a concentration of 10 to 60 %, which is selected from mono, diol and triol ([0133]; See Examples), and ink composition includes a water of from 40 to 80% of an ink solution (see Examples).
- The phthalocyanine dye is a water-soluble dye having an electron-withdrawing group at the β -position of a benzene ring of the phthalocyanine ([0064]-[0072]).
- The phthalocyanine dye is represented by the formula as shown below in an amount of from 0.2 to 20 % by weight ([0008]; see Examples).

Formula (I):

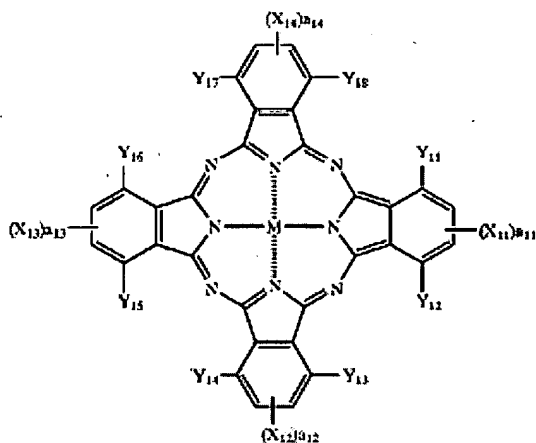


[0009] wherein X_1 , X_2 , X_3 and X_4 each independently represents $-\text{SO}-Z$, $-\text{SO}_2-Z$, $-\text{SO}_2\text{NR}_1\text{R}_2$, a sulfo group, $-\text{CONR}_1\text{R}_2$ or $-\text{CO}_2\text{R}_1$, each Z independently represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group or a substituted or unsubstituted heterocyclic group, R_1 and R_2 each independently represents a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group or a substituted or unsubstituted heterocyclic group, Y_1 , Y_2 , Y_3 and Y_4 each independently represents a monovalent substituent, a_1 to a_4 and b_1 to b_4 each represents the number of substituent X_1 , X_2 , X_3 , X_4 , Y_1 , Y_2 , Y_3 or Y_4 , a_1 to a_4 each independently represents a number of 0 to 4 but all are not 0 at the same time, b_1 to b_4 each independently represents a number of 0 to 3, provided that when at least one of a_1 to a_4 and b_1 to b_4 represents a number of 2 or more, corresponding plurality of substituents X_1 , X_2 , X_3 , X_4 , Y_1 , Y_2 , Y_3 or Y_4 may be the same or different, and M represents a hydrogen atom, a metal atom or an oxide, hydroxide or halide thereof.

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- The dye represented the formula as below ([0010]).

Formula (II):



[0011] wherein X_{11} to X_{14} , Y_{11} to Y_{18} and M have the same meanings as X_1 to X_4 , Y_1 to Y_4 and M in formula (I), respectively, and a_{11} to a_{14} each independently represents an integer of 1 or 2.

- The ink has no visibly detectable bleeding on an image-receiving material at a visible distance, the image-receiving material comprises an image-receiving layer on a support, and the image-receiving layer contains a white inorganic pigment particle or a gelatin-containing hardened layer as an image-recording layer ([0171]-[0186]).
- They also discloses an ink jet recording method using the ink, wherein an ink droplet is ejected onto an image-receiving material in accordance with a recording signal so that an image is recorded on the image-receiving material by using the ink for ink jet recording (see claims:5-8; Examples), the image-receiving material comprising an image-receiving layer on a support, the image-receiving layer ([0171]-[0186]) containing a white inorganic pigment particle ([0172]) and at least one aqueous binder

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selected from a polyvinyl alcohol, a silanol-modified polyvinyl alcohol, a starch, a cationated starch, a gelatin, a carboxyalkyl cellulose, a casein and a polyvinyl pyrrolidone ([0174]) and the image-receiving layer further contains a mordant selected from a polyaluminum chloride, a chromium compound and an azo dye-mordanting group-containing polymer ([0176]-[0179]).

Ozawa discloses all the limitation of the inkjet ink composition except that the ink has conductivity of 0.01 S/m to 10 S/m. (2) The viscosity of the ink has a viscosity ratio of not greater than 250% from at 25 degree C to 10 degree C, and static surface tension has a static surface tension ratio of not greater than 130% from at 25 degree C to at 10 degree C. (3) The monochromic moiety printed by using a single color of the ink so as to give a cyan reflection density of 0.9 to 1.1 in a Status A filter is stored in an ozone environment of 5 ppm of 24 hours, a dye residual ratio is 60% or more.

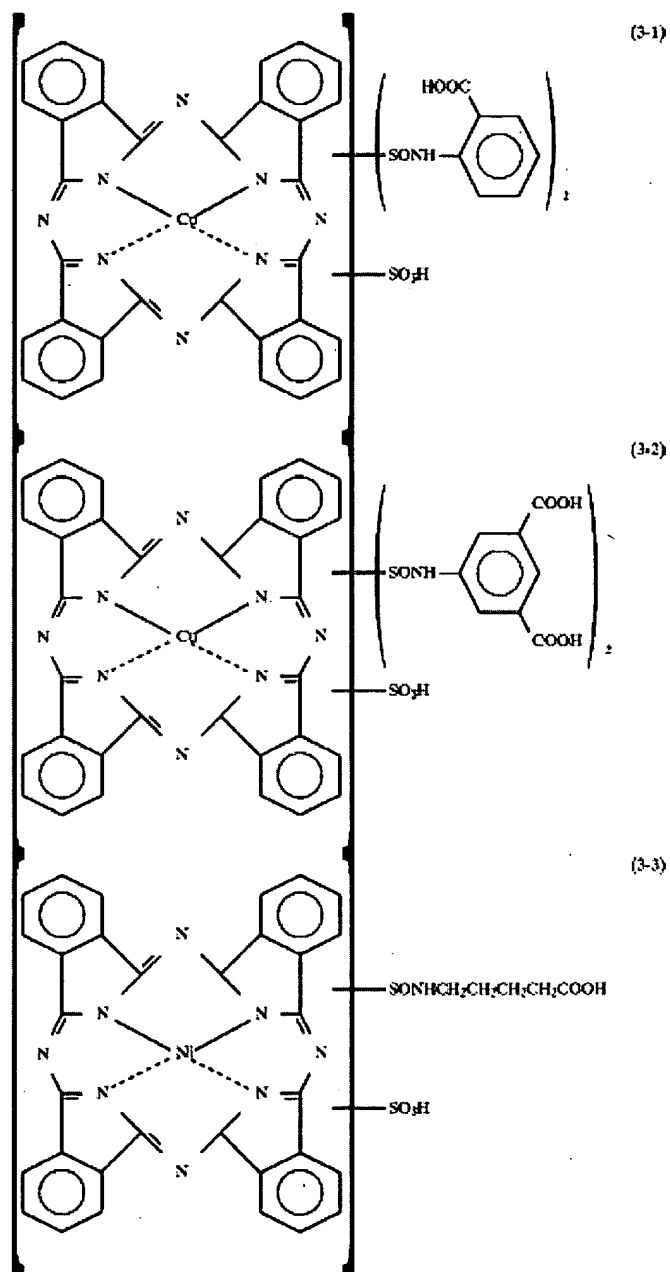
However, these limitations are consider to be obvious, because there does not appear to be any reason why the cited reference would not contains an ink composition with applicant's claimed properties since the organic solvent of the above reference is the same as applicant claimed and the phthalocyanine dye of the above reference is the same structure as those claimed by applicants.

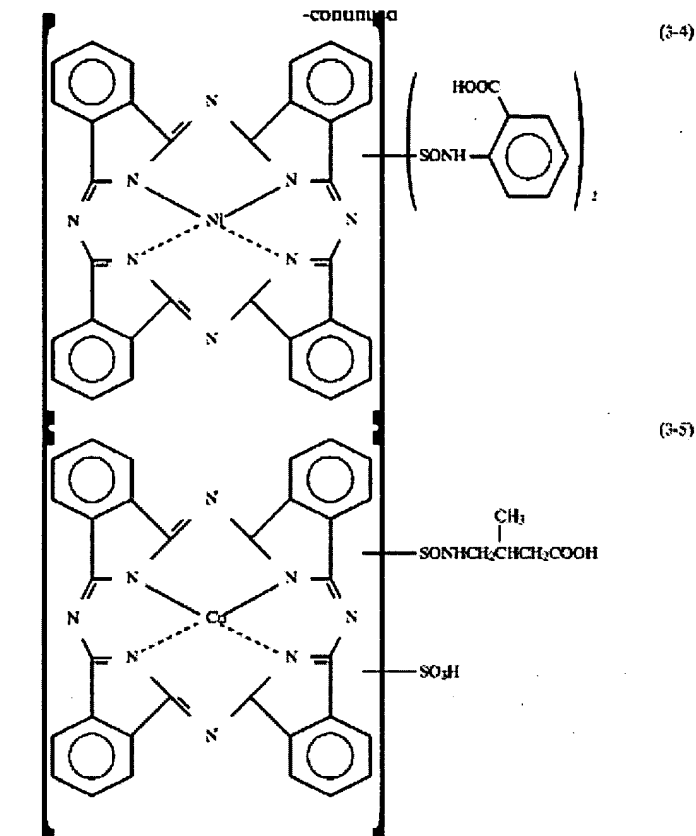
4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being obvious over Nagai et al. (# US 5882390).

Nagai et al. discloses :

- An ink for ink jet recording, comprising an aqueous medium having dissolved therein a phthalocynine dye, wherein the phthalocyanine dye has an ionic hydrophilic group (column: 3, line: 40-67) and the ink includes a water-miscible organic solvent (column: 19, line: 55-67; column: 20, line: 1-25).
- The ink has the surface tension is less than 50 mN/m (column: 16, line: 30-35), and pH is from 6-11 (column: 22, line: 20-30).
- The ink composition includes the polyhydric alcohol and/or derivative of polyhydric alcohol at a concentration of 10 to 60 %, which is selected from monool, diol and triol (column: 19, line: 55-67; column: 20, line: 1-25), and ink composition includes a water of from 40 to 80% of an ink solution (see Examples).
- The phthalocyanine dye is a water-soluble dye having an electron-withdrawing group at the β -position of a benzene ring of the phthalocyanine (column: 5, line: 1 to column: 13, line: 35).
- The phthalocyanine dye is represented by the formula as shown below (column: 11, line: 1-67; column: 13, line: 1-35).

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Nagai et al. discloses all the limitation of the inkjet ink composition except that (1) the oxidation potential is more than 1.0 V (vs SCE) and the ink has conductivity of 0.01 S/m to 10 S/m. (2) The monochromatic moiety printed by using a single color of the ink so as to give a cyan reflection density of 0.9 to 1.1 in a Status A filter is stored in an ozone environment of 5 ppm of 24 hours, a dye residual ratio is 60% or more. (3) The viscosity of the ink has a viscosity ratio of not greater than 250% from at 25 degree C to 10 degree C, and static surface tension has a static surface tension ratio of not greater than 130% from at 25 degree C to at 10 degree C.

However, these limitations are consider to be obvious, because there does not appear to be any reason why the cited reference would not contains an ink composition

with applicant's claimed properties since the organic solvent of the above reference is the same as applicant claimed and the phthalocyanine dye of the above reference is the same structure as those claimed by applicants.

Response to Arguments

Applicant argued that the Taguchi et al. and Ishizuka et al. are filled after January 23, 2003. However, to get that date applicant has to file the English translation of the national stage application (PCT/JP03/00603). Therefore, both the references are still qualified for the prior art rejection.

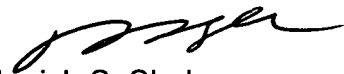
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

3/23/07